

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-15, 18 and 19 are now present in the application. Claims 12 and 15 have been amended. Claims 16 and 17 have been cancelled. Claims 1 and 12 are independent. Reconsideration of this application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. §§ 102 & 103

Claims 1, 5-7, 9 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yoshito, JP 2002-027249. Claims 2-4, 8 and 11-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshito in view of Hattori, U.S. Patent Application Publication No. US 2003/0123093. These rejections are respectfully traversed.

In light of the foregoing amendments, Applicants respectfully submit that this rejection has been obviated and/or rendered moot.

Independent claim 1 recites a combination of elements including "dividing an image to be processed into a plurality of blocks; filling an initial region of a block according to an error diffusion method; performing error diffusion in order for each of the pixels in the block; reserving the pixels that are not processed in the final region of the block to the next adjacent block; and performing the error diffusion method for each of the blocks to complete halftone processing."

Independent claim 12 has been amended to recite a combination of elements including "an image processing chip, which executes the error diffusion; an internal memory, which is inside the chip to store the block to be processed and the image data filling in the initial region of

the block according to the error diffusion method for the image processing chip to process error diffusions, the filling image data being all pixels not processed in the final region of the block to the adjacent blocks; and an external memory, which is outside the chip for providing the internal memory with the pixels needed to fill the block.”

Applicants respectfully submit that the above combinations of steps and elements as set forth in independent claims 1 and 12 are not disclosed nor suggested by the references relied on by the Examiner.

The claimed invention is directed to a memory management method for error diffusion, and a halftone processing module for error diffusion for dividing an image into a plurality of blocks and using an error diffusion method to perform halftone processing. The Examiner alleged that Yoshito in paragraphs 11-13 discloses “reserving the pixels that are not processed in the final region of the block to the next adjacent block” as recited in claim 1. Applicants respectfully disagree. In fact, Yoshito simply discloses that the error diffusion processing for the blocks is one by one. Yoshito nowhere discloses reserving the pixels that are not processed in the final region of *the block to the next adjacent block* when processing error diffusion as recited in claims 1 and 12.

Unlike Yoshito, the claimed invention discloses a new way of processing error diffusion. In the claimed invention, due to *dividing the image in regular form and reserving the pixels not processed* in the final region of *the block to the next adjacent block*, the reserved pixels in the block become the start accessing (operating) address of the next block. Therefore, the data in memory can be accessed continuously and quickly, thereby reducing the access time. Accordingly, the claimed invention can reduce the memory size to be used, reduce the memory

access times, and increase efficiency of the memory resource management. Those features are clearly absent from Yoshito.

Hattori also fails to cure the deficiencies of Yoshito. Hattori deals with image processing by using error diffusion. Although Hattori divides the image to improve quality of the image, Hattori nowhere discloses how to use the feature of dividing the image in regular form to reduce memory access time when the error diffusion is performed. Unlike Hattori, in the claimed invention, due to *dividing the image in regular form and reserving the pixels not processed* in the final region of *the block to the next adjacent block*, the reserved pixels in the block become the start accessing (operating) address. Therefore, the data in memory can be accessed continuously and quickly, thereby reducing the access time.

Accordingly, neither of the references utilized by the Examiner individually or in combination teaches or suggests the limitations of independent claim 1 and 12 or their dependent claims. Therefore, Applicants respectfully submit that independent claim 1 and 12 and their dependent claims clearly define over the teachings of the references relied on by the Examiner.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

CONCLUSION

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Cheng-Kang (Greg) Hsu, Registration No. 61,007 at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a one (1) month extension of time for filing a response in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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